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ABSTRACT

Identifying the specific self-regulated learning strategies students use as they move toward higher academic achievement has important educational implications. This may be particularly true for rural students, who often have fewer available resources than their suburban peers. In this study, 75 eleventh- and twelfth-graders in 12 rural high schools completed Iowa achievement tests and Bandura's Self-Regulated Learning subscale, which measures perceived self-efficacy in using 11 self-regulated learning strategies. Multiple regression was used to assess the relative influence of the self-regulatory strategies on achievement in four content areas: mathematics, science, social studies, and reading. Overall, increased self-regulated learning was associated with higher student achievement in all four domains. A surprisingly similar pattern of influence was uncovered in which "remembering information presented in class and textbooks" and "organizing schoolwork" uniformly affected achievement across content areas. The influential strategies uncovered here involve skills that may be amenable to further development through training and practice. (Contains 16 references.) (Author/SV)

Promoting Rural Students' Academic Achievements: An Examination of Self-Regulated Learning Strategies

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Abstract

Identifying the specific self-regulated learning strategies students use as they move toward higher academic achievement has important educational implications. This may be particularly true for rural students who often have fewer available resources than their suburban peers. In this study, rural high-school students (N = 75) completed IOWA achievement tests and Bandura's Self-Regulated Learning subscale. Multiple regression was used to assess the relative influence of the self-regulatory strategies on achievement in four content areas: math, science, social studies, and reading. Overall, increased self-regulated learning was associated with higher student achievement in all four domains. A surprisingly similar pattern of influence was uncovered where "remembering information presented in class and textbooks" and "organizing schoolwork" uniformly affected achievement. The inluential strategies uncovered here appear to involve skills that may be amenable to further development through training and/or practice.

Promoting Rural Students' Academic Achievements:

An Examination of Self-Regulated Learning Strategies

This paper presents findings that concern the connection between rural students' academic achievement and efficacy beliefs for self-regulated learning. Students who direct their own learning processes tend to be self-reliant and effective as independent learners. A growing body of research indicates that student self-directed learning positively affects academic performance (see review by Pressley, Borkowski, & Schneider, 1989). However, most investigations of the self-regulation to achievement association have been conducted in nonrural settings. Rural environments create academic differences with important consequences for student achievement. For example, the disparity between rural and nonrual youth in both educational aspiration (Monk & Haller, 1986) and confidence in one's ability to complete college (Cobb, McIntire, & Pratt, 1989) have been noted. Given that academic attainment is regulated through self-motivating influences (Zimmerman, Bandura, & Martinez-Pons, 1992), rural educators are challenged to enhance self-regulative strategies that motivate academic efforts.

Identifying the specific self-regulatory strategies students use as they move toward higher academic achievement has important educational implications. This may be particularly true in the design of intervention programs in rural environments. For instance, even though educational programs are typically tailored

after suburban values and lifestyles (Stumbo, 1989), rural schools often work under less resourceful conditions (Reed & Busby, 1985). Further, demographic patterns indicate that rural schools are serving increasing numbers of at-risk students (Parrish & Lynch, 1990; Rojewski, 1993). Therefore, although formal programs are now being developed to serve students who are at academic risk (Zimmerman, 1990), these programs may not generalize from nonrural to rural settings.

In an effort to aid program design in rural settings, this study was conducted to measure students' perceptions of ability to use various self-regulated learning strategies. Because self-regulatory efficacy beliefs are typically viewed as task-specific (Woodruff & Cashman, 1993), the influence of each of these strategies on achievement was assessed in four subject matter areas: math, science, social studies, and reading. Based upon the task-specific nature of self-efficacy beliefs, it was anticipated that the relative importance of the self-regulatory strategies would vary, depending on the subject area. In other words, the set of self-regulated learning strategies that best predicted student achievement was expected to vary across the four subject matter areas.

Method

Participants (N = 75) were primarily 11th- or 12th-graders from twelve rural public high schools. An academic counselor serving a five-county rural area administered an instrument assessing the use of self-regulated learning strategies at the

beginning of a two-day tutoring and study skills program presented at each student's school. The counselor also obtained nationally standardized (IOWA) achievement measures from school records.

The Self-Efficacy for Self-Regulated Learning subscale is one component of Bandura's (1989) Multidimensional Scales for Perceived Self-Efficacy. Self-regulated learning efficacy is measured with eleven items that run in unit steps from 1 (not very well at all) to 7 (very well). Higher scores indicate a greater perceived capability to use self-regulated learning strategies. An estimate of the reliability of this scale for the present sample revealed high internal consistency (Cronbach's alpha = .89).

Results

Item means and standard deviations for the learning strategies are presented in Table 1. Students rated their efficacy highest for using the library to get information for class assignments (M = 5.13) and lowest for studying when there are other interesting things to do (M = 3.38). On average, students' reported perceived capabilities for strategy use fell between "not too well" and "pretty well." The standard deviations (ranging from 1.16 to 1.63) were relatively homogeneous, indicating that the students used the rating scales in similar ways.

Four multiple regression analyses were employed to assess the relative influence of the self-regulated learning strategies

upon student achievement (see Table 2). A significant amount of variation in the students' achievement scores was explained by the eleven strategies, which accounted for 23%, 36%, 31% and 31% of the achievement variance in math, science, social studies and reading, respectively. Differences between the beta weights for the self-regulatory strategies, assessed through post-hoc comparisons, revealed a surprisingly similar pattern of coefficients across all four subject areas. Two significant predictors (remembering information presented in class and textbooks, and organizing school work) uniformly affected student achievement in each of the content areas.

Discussion

Two major findings emerged about the self-regulated learning of rural students: (a) specific strategies significantly affected academic achievement, and (b) the influential strategies remained fairly stable across the four content areas.

Overall, students' efficacy beliefs to self-regulate learning did contribute to academic achievement. Increases in self-regulated learning efficacy were associated with higher student achievement in all four content areas. Thus students are likely to benefit from self-regulated learning strategy instruction, particularly in rural settings which often contain constraints (Reed & Busby, 1993). The influential strategies uncovered here appear to involve skills that may be developed with training and/or practice. For example, teachers could structure classroom activities to review the important learning

strategies, teach students how to apply them, and provide feedback on when and why the strategies are effective. Many students view effort as compensation for low ability (Nicholls, 1984) and desire some control over their learning environment (Bandura, 1993). Therefore, arming students with information about strategy use may enhance internal motivation and afford them a sense of control. Targeting specific strategies for student use appears to encourage self-regulation of the factors that increase academic performance.

The effect of self-regulated learning on achievement was found to be fairly consistent across all four subject matter areas. Thus although the literature (e.g., Gorrell, 1990) has suggested that efficacy beliefs are best described and investigated within individual task areas, these results tend to support Bandura's (1986) notion that task-specific efficacies are linked into a global domain efficacy. One explanation might be that students have a collection of experiences. Capability beliefs about various academic tasks may be carried into new areas, thus producing academic domain efficacy. If this is the case. then beliefs about one's ability to use self-regulated learning strategies in different content areas may be based upon the selective interpretation of information from other areas. This perspective might explain the surprising evidence produced here of the generalizability of specific learning strategies across the content areas.

References

Bandura, A. (1986). Social foundations of thought and action: A social cognitve theory. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1989). The multidimensional self-efficacy scales. Unpublished test, Stanford University, Stanford, CA.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. Educational Psychologist, 28, 117-148.

Cobb, R.A., McIntire, W.G., & Pratt, P.A. (1989). Vocational and educational aspirations of high school students: A problem for rural America. Research in Rural Education, 6, 11-15.

Gorrell, J. (1990). Some contributions of self-efficacy research to self-concept theory. Journal of Research and Development in Education, 23, 73-81.

Haller, E.J., Monk, D.H., & Tien, L.T. (1993). Small schools and higher-order thinking skills. Journal of Research in Rural Education, 9, 66-73.

Monk, D.H., & Haller, C.J. (1986). Organizational alternatives for small rural schools. Ithaca, NY: Department of Education, Cornell University.

Nicholls, J.G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. Psychological Review, 19, 308-346.

Parrish, L.H., & Lynch, P.S. (1990). Guidance and counseling in rural communities for students with special needs. Journal for Vocational Special Needs Education, 12, 13-16.

Pressley, M., Borkowski, J.G., & Schneider, W. (1989). Cognitive strategies: Good strategy users coordinate metacognition and knowledge. In R. Vasta & G. Whitehurst (Eds.), Annals of child development (Vol. 5, pp.89-129). NY: JAI press.

Reed, D.F., & Busby, D.W. (1985). Teacher incentives in rural schools. Research in Rural Education, 3, 69-73.

Rojewski, J.W. (1993). Vocational education for students with special needs in rural America: Problems and solutions. Rural Special Education Quarterly, 12, 8-17.

Stumbo, C. (1989). Teachers and teaching. Harvard Review, 59, 87-89.

Woodruff, S.L., & Cashman, J.F. (1993). Task, domain, and general efficacy: A reexamination of the self-efficacy scale. Psychological Reports, 72, 423-432.

Zimmerman, B.J. (1990). Self-regulatory academic learning and achievement: The emergence of a social cognitive perspective. Educational Psychology, 2, 173-102.

Zimmerman, B.J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. American Educational Research Journal, 29, 663-676.

Table 1

Self-Efficacy for Self-Regulated Learning

Item Means and Standard Deviations (N = 75)

Strategy	Mean	SD
How well can you . . .		
use the library to get information for class assignments?	5.13	1.32
finish homework assignments by deadlines?	4.87	1.46
participate in class discussions?	4.76	1.63
take class notes of class instruction?	4.60	1.32
organize your school work?	4.58	1.35
concentrate on school subjects?	4.58	1.18
plan your school work?	4.44	1.16
arrange a place to study without distractions?	4.39	1.50
remember information presented in class and textbooks?	4.35	1.41
motivate yourself to do school work?	4.08	1.38
study when there are other interesting things to do?	3.38	1.42

Table 2

Multiple Regression Analyses by Content Domain (N = 75)

Area	RSQ	Strategy	r	Beta	t*
Math	23%	finish homework assignments by deadlines	.278	.300	2.28
		remember information presented in class and textbooks	.355	.414	3.17
Science	36%	organize school work	.200	.443	3.06
		remember information presented in class and textbooks	.364	.585	4.90
Social Studies	31%	organize school work	.207	.369	2.45
		remember information presented in class and textbooks	.295	.514	4.15
Reading	31%	use the library to get information for class assignments	.223	.237	2.03
		organize school work	.204	.304	2.02
		remember information presented in class and textbooks	.352	.455	3.67

* $p < .05$